(B) IN THE CLAIMS

1. (Original) A transverse gradient coil comprising:

a strip of electrically conductive material; and

said strip of electrically conductive material having a hollow portion such that fluid is permitted to flow through the conductive material.

2. (Original) The transverse gradient coil assembly of claim 1 wherein the hollow conductor is wound in a helix to form the general shape of a cylinder.

3. (Original) The transverse gradient coil assembly of claim 2 wherein the hollow conductor is wound for use in a shielded gradient coil.

4. (Original) The transverse gradient coil assembly of claim 3 wherein the gradient coil is comprised of a plurality of hollow conductor sections, each permitting fluid to flow through the conductor.

5. (Original) The transverse gradient coil assembly of claim 4 wherein the hollow conductor is wound for use in a flat gradient coil, for use in an open architecture Magnetic Resonance Imaging device.

6. (Original) The transverse gradient coil assembly of claim 5 wherein additional cooling is provided by a plurality of coolant pipes situated in thermal contact around the gradient coil.

7. (Original) The transverse gradient coil assembly of claim 6 wherein the coolant passed through the tubular area is water, ethylene glycol or a mixture of the two coolants.

8. (Original) An MRI apparatus comprising:

a magnetic resonance imaging system (MRI) having a plurality of gradient coils positioned about a bore of a magnet to impress a polarizing magnetic field and an RF transceiver system and an RF switch controlled by a pulse mode to transmit RF signals to an RF coil assembly to acquire MR images;

an input device to select a scan sequence; and

wherein a gradient coil is wound of a hollow conductor elements such that fluid is permitted to flow through the conductor.

9. (Original) The MRI apparatus of claim 8 wherein the hollow conductor is wound to comprise a transverse gradient coil.

10. (Original) The MRI apparatus of claim 9 wherein the hollow conductor is wound for use in a shielded gradient coil assembly.

11. (Original) The MRI apparatus of claim 10 wherein the gradient coil is comprised of a plurality of hollow conductor sections, each permitting fluid to flow through the conductor.

12. (Original) The MRI apparatus of claim 11 wherein the hollow conductor is wound for use in a flat gradient coil, for use in an open architecture Magnetic Resonance Imaging device.

13. (Original) The MRI apparatus of claim 12 wherein additional cooling is provided by a plurality of coolant pipes situated in thermal contact around the gradient coil.

14. (Original) The MRI apparatus of claim 13 wherein the coolant passed through the tubular area is water, ethylene glycol, or a mixture of the two coolants.

15. (Original) A gradient coil assembly comprising:

a strip of conductive material;

said strip of conductive material being formed into a cylindrical coil winding;

said winding including a continuous tubular hollow area through the winding, said hollow area permitting the continuous flow of coolant.

16. (Original) The gradient coil assembly of claim 15 wherein the gradient coil is used for a shielded gradient coil assembly.

17. (Original) The gradient coil assembly of claim 16 wherein the gradient coil is comprised of a plurality of hollow conductor sections, each permitting fluid to flow through the conductor.

18. (Original) The gradient coil assembly of claim 17 wherein additional cooling is provided by a plurality of coolant pipes situated in thermal contact around the hollow gradient coil.

19. (Original) The gradient coil assembly of claim 18 wherein the coolant passed through the tubular area is water, ethylene glycol, or a mixture of the two coolants.

20. (Original) A transverse gradient coil assembly comprising:

a cylindrical inner coil winding, said winding further including a continuous tubular hollow area through the winding, said tubular area permitting the continuous flow of coolant;

a filler material surrounding the coil winding; and

a plurality of coolant pipes situated in thermal contact with the gradient coil in the filler material.

21. (Original) The transverse gradient coil assembly of claim 18 wherein the gradient coil is comprised of a plurality of hollow conductor sections, each permitting fluid to flow through the hollow conductor.

22. (Original) A method for cooling a gradient coil assembly comprising the steps of:

providing a conductor having a continuous hollow center;

winding the conductor into a spiral such that said conductor forms a cylinder;

providing a cooling system for circulating a coolant through the hollow area in the inner gradient coil.

23. (Original) The method of claim 22 further comprising the step of locating the wound cylindrical conductor in coaxial relationship with other cylindrical windings.

24. (Original) The method of claim 23 further comprising the step of positioning said gradient coil windings in a radially spaced-apart coaxial relationship.

25. (Original) The method of claim 24 further comprising the step of circulating coolant through said gradient coil windings.